

Perchlorate Accumulation from Fertilizer in Leafy Vegetation

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Perchlorate has contaminated water and soils at several locations in the United States. Perchlorate is water soluble, exceedingly mobile in aqueous systems, and can persist for many decades under typical ground and surface water conditions. Perchlorate is of concern because of uncertainties about toxicity and health effects from low levels in drinking water, the impact on ecosystems, and possible indirect exposure pathways for humans from agricultural and other activities. There are very limited data about the possible uptake of perchlorate into agricultural products due to irrigation with contaminated waters or application of fertilizers containing perchlorate. In order, to characterize possible impacts of crop perchlorate interactions, the uptake of perchlorate from fertilizer in leafy garden crops was investigated by applying a nutrient solution containing perchlorate on lettuce (*Lactuca sativa*) and mustard (*Brassica alba*) seedlings based on the recommended application rate for the fertilizer. Four locally purchased fertilizers and an unfertilized control were tested on seedlings grown in 2 different media, washed sand and potting soil. Whole plant samples were taken throughout the growing season. Plant tissues were separated and analyzed for perchlorate and transformation products.

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Platform presentation in the perchlorate session.